Food and Agriculture
Organization of the
United Nations

IUCN SSC
Human-Wildlife
Conflict & Coexistence
SPECIALIST GROUP

HUMAN-WILDLIFE CONFLICT & COEXISTENCE
/ CASE STUDIES

BUILDING INSTITUTIONAL AND LOCAL COMMUNITY CAPACITY TO MANAGE HUMAN-WILDLIFE CONFLICT

© UNSPLASH/ANSIE POTGIETER

© UNSPLASH / DIMITRY B

© FAO / PABALLO THEKISO

SHOUT
SHARE
IT

INTRODUCTION

In Mozambique, human-wildlife conflict was not a new issue in 2010. Still, incidents had been increasing, particularly those involving crocodiles *Crocodylus niloticus*, and also elephants *Loxodonta africana* and lions *Panthera leo*. These incidents impacted food security, local community incomes, well-being and safety, and were exacerbated by poverty levels.

BETWEEN JULY 2006 AND SEPTEMBER 2008, 265 PEOPLE WERE REPORTEDLY KILLED BY WILDLIFE, PRIMARILY BY CROCODILES (79 PERCENT) AND 82 PEOPLE INJURED; AND 1 116 HA OF CROPS WERE DESTROYED IN 2008 ALONE, MAINLY BY ELEPHANTS (86 PERCENT).

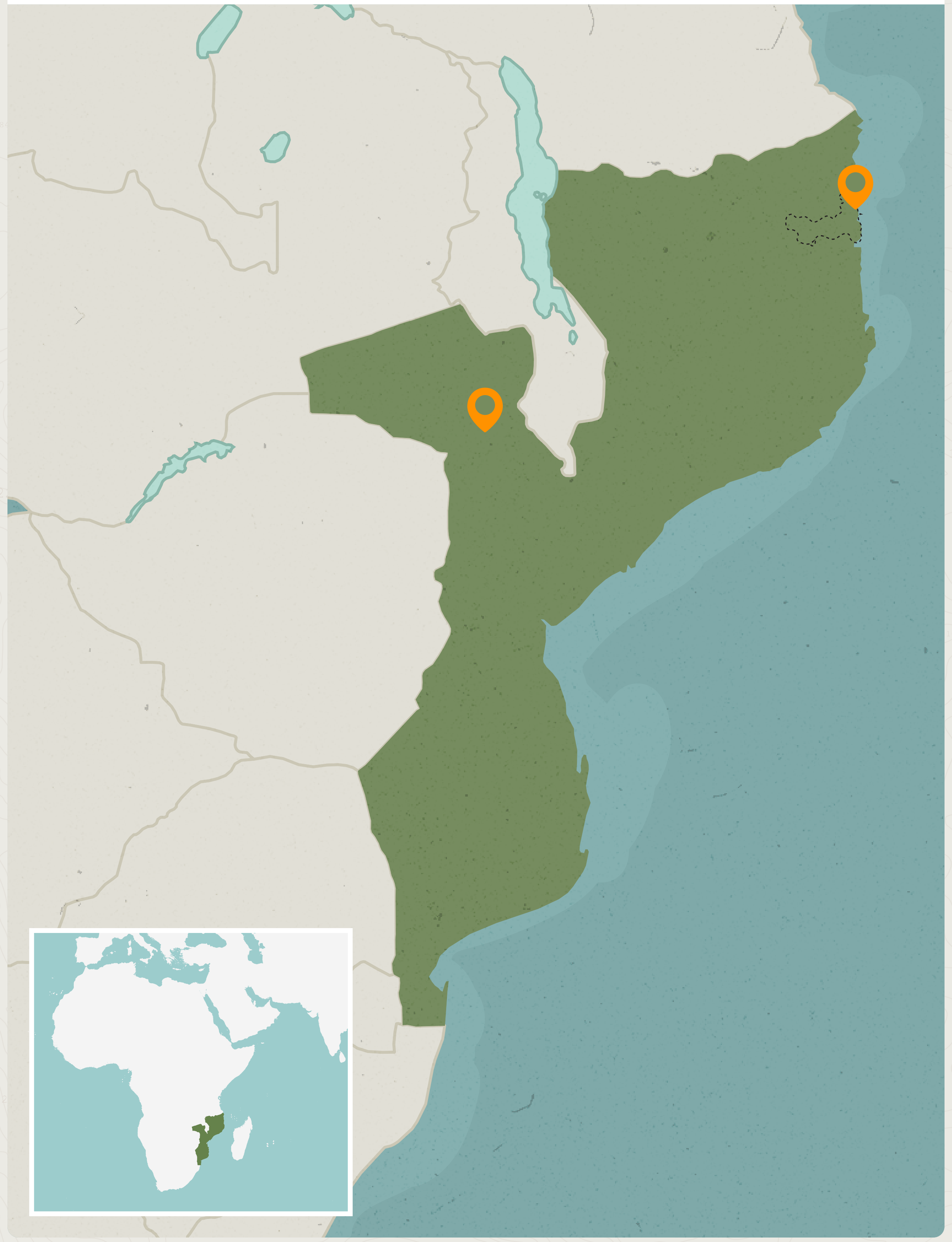
KEY INSIGHTS &
LESSONS LEARNT
ON PAGE 11

© UNSPLASH / DIMITRY B.

QUIRIMBAS NATIONAL PARK & TETE

MOZAMBIQUE

QUIRIMBAS NATIONAL PARK & TETE,
MOZAMBIQUE



Source: Free Vector Maps modified to comply with UN, 2020

Free Vector Maps 2022. World Map [online] [Cited 5 January 2022] https://freevectormaps.com/world-maps/WRLD-EPS-03-0001

© ADOBE STOCK / ECOVIEW

In the same period, 276 wild animals were reportedly killed in retaliatory events. At the time, around 17.3 million people, or 80 percent of the population of Mozambique, lived in rural areas and relied on subsistence agriculture, fishing, and natural resources. About 200 000 people lived in close contact with wildlife, either inside the buffer zone of protected areas or within them.

Therefore, human-wildlife conflict had become a major concern for the Government of Mozambique and led them to formulate a National Strategy for Human-Wildlife Conflict Management (2009-2014) (*Estratégia de gestão do conflito homme-fauna bravia*) (hereafter "the Strategy"). The government approved the Strategy in 2009, and from 2010 its implementation was supported by the Food and Agricultural Organisation of the United Nations (FAO), through a Technical Cooperation Programme Project (hereafter "FAO project"). The FAO project's objective was to design an implementation plan for the Strategy with the expressed goal of mitigating human-wildlife conflicts and build the needed capacity in the country to be able to do so.

This case study focuses on how capacity was built in Mozambique to implement the Strategy.

PROBLEM ANALYSIS

As part of the Strategy, several drivers for the increase in human-wildlife conflicts were identified. They included the lack of land-use planning, which in turn led to human settlements in wildlife areas, resulting in habitat destruction and modification. In the case of crocodiles, poor access to water supplies impacted women and children disproportionately, since they were the ones attending to household duties in rural Mozambique. Community members would gather water, bathe or wash clothes in local rivers due to limited access to clean running water. When accessing the river, community members were vulnerable to attacks by crocodiles.

Before the start of the project, there had already been significant efforts by the government and other stakeholders in Mozambique to address human-wildlife conflict. In particular, a national database for information on human-wildlife conflict incidents had already been set up, collecting data since 2006. Data on incidents of human-wildlife conflict were collected on a daily basis by a diverse range of stakeholders, including rangers from both the Ministry of Agriculture (MINAG) and the Ministry of Tourism (MITUR), agricultural agents, local authorities, and sometimes the police (mostly when human deaths occurred). This data would be collected and reported through the use of a specific form, compiled at the district, then at the province level, and ultimately at the Wildlife Department in MINAG. Each month, a report would be prepared and sent to the government cabinet, highlighting the extent of human-wildlife incidents and impacts for that month.

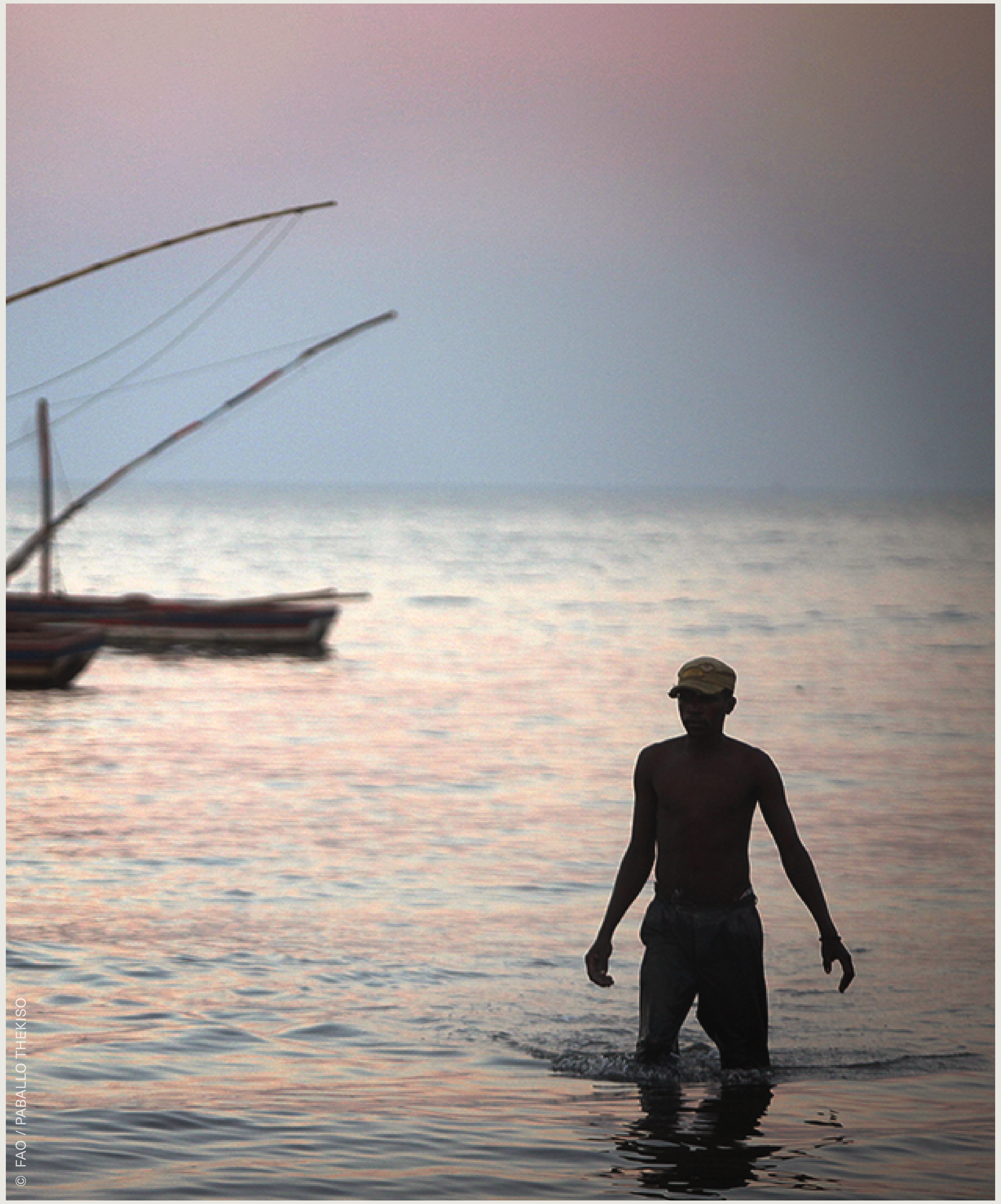
© ADOBE STOCK / MANOK

© FAO / PABALLO THEKISO

However, the data stored in the database was often not accurate or reliable, and the information was not appropriately circulated to all concerned stakeholders. In turn, this made it difficult to select and set up mitigation projects based on real needs on the ground. It was found that even with the database, it was not easy to determine the real extent and frequency of impacts and that biases occurred at each step of the transmission chain. The assessments of what constituted an incident and its impacts were highly subjective.

It was observed that politicians were unaware of what was causing human-wildlife conflict incidents or the extent of the issue in the country. They were also not aware of the existence of proven prevention and mitigation methods.

> THEREFORE, WHEN RESPONDING QUICKLY UNDER PRESSURE TO HUMAN-WILDLIFE CONFLICT INCIDENTS, THEY OFTEN CHOSE LETHAL CONTROL OF THE WILDLIFE AS THE MOST APPROPRIATE REACTIVE AND DEFAULT OPTION.



© FAO / PABALLO THEKISO

© UNSPLASH / AHMED GALAL

Additionally, where mitigation methods had been tried as part of the Strategy, their efficacy was not shared with all the relevant stakeholders, potentially resulting in the continued use of unsuccessful methods, and more successful methods not receiving the focus they deserved.

The FAO project surmised that local communities were not involved in human-wildlife conflict mitigation, as they considered it was the responsibility of the government to address such an issue.

> COMMUNITIES HAD LIMITED UNDERSTANDING OF HOW TO BEHAVE AROUND WILDLIFE IN ORDER TO MITIGATE RISK AND THE NEGATIVE IMPACTS FROM HUMAN-WILDLIFE CONFLICTS.

PROCESS

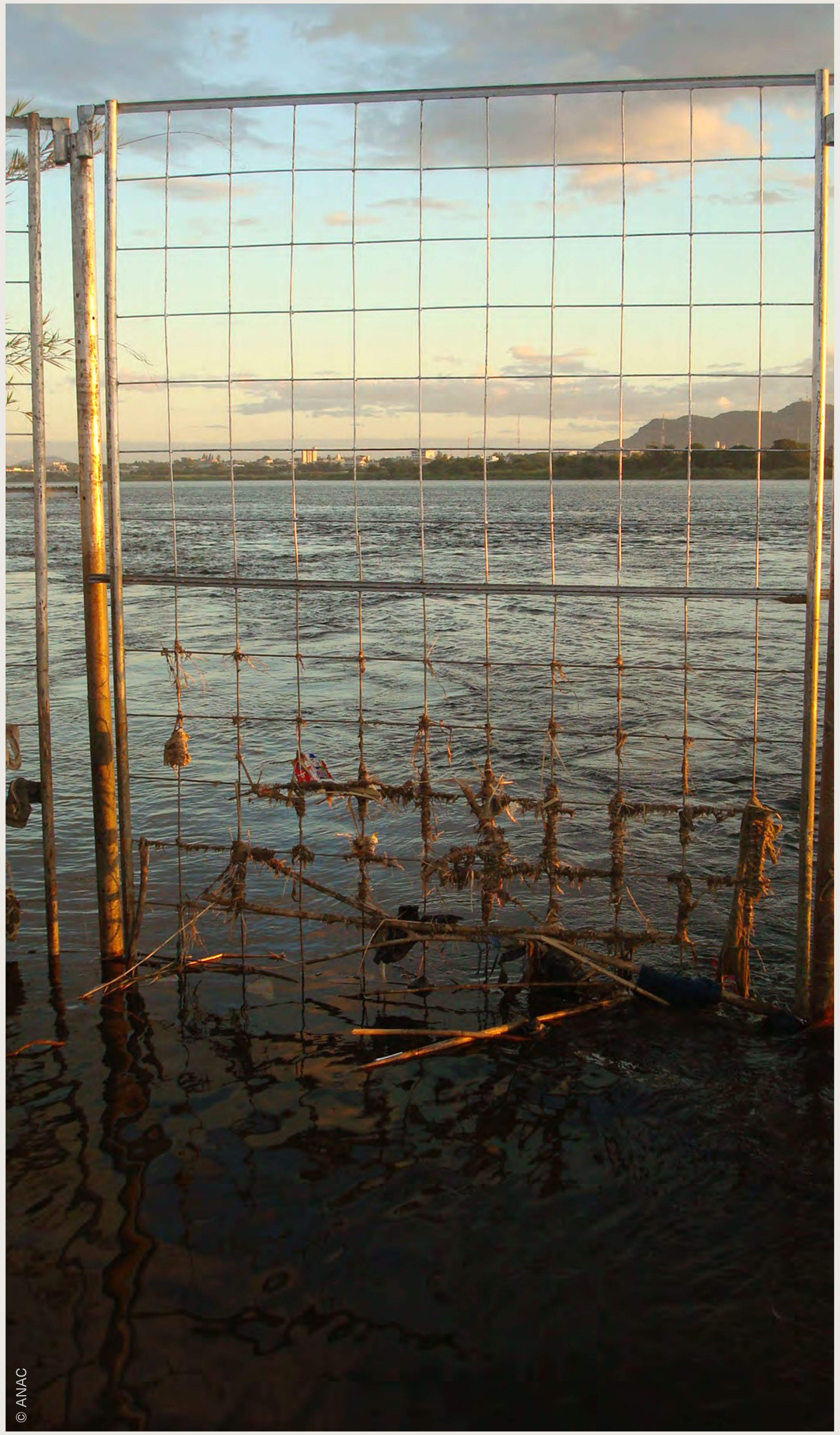
The project was initiated after the government participated in one of the FAO's meetings, in which the topic of human-wildlife conflict management was one of the priority areas for work. As in all TCP projects, the government was the leading implementation partner, with FAO providing technical assistance. The Wildlife Department of the Directorate of Lands and Forests (DNTF) was in charge of the project and appointed one managing officer. The National Directorate of Conservation Areas (DNAC) was the other government institution engaged with this project.

Together with the project's technical adviser and an international consultant, government authorities defined two pilot-provinces: Cabo Delgado (Quirimbas National Park) and Tete (Zambezi River), in which to implement database management on human-wildlife conflict mitigation tools, making use of historical data. In 2012, Gaza province (Massingir District) was added as a third pilot-area.

During the course of the project, three national consultants were recruited by FAO, namely: (i) one who specialised in the assessment of the mitigation measures in Zimbabwe, ii) a second one, concentrated on the human-crocodile conflict problem, providing training in how to conduct crocodile surveys and crocodile population management techniques, as well as providing technical advice for the construction of a prototype *crocodile-proof* pool, (iii) a third consultant was tasked to produce maps with reference grids for each district of the pilot provinces.

© FAO / FILIPE BRANQUINHO

© ADOBE STOCK / RIXIE


© ANAC

©LFAO / PABALLO THEKISO

© FAO / PABALLO THEKISO

© ANAC

© UNSPLASH / GURTH BRAMALL EKI

© FAO / PABALLO THEKISO

© ADOBE STOCK / TRAVELVOLO

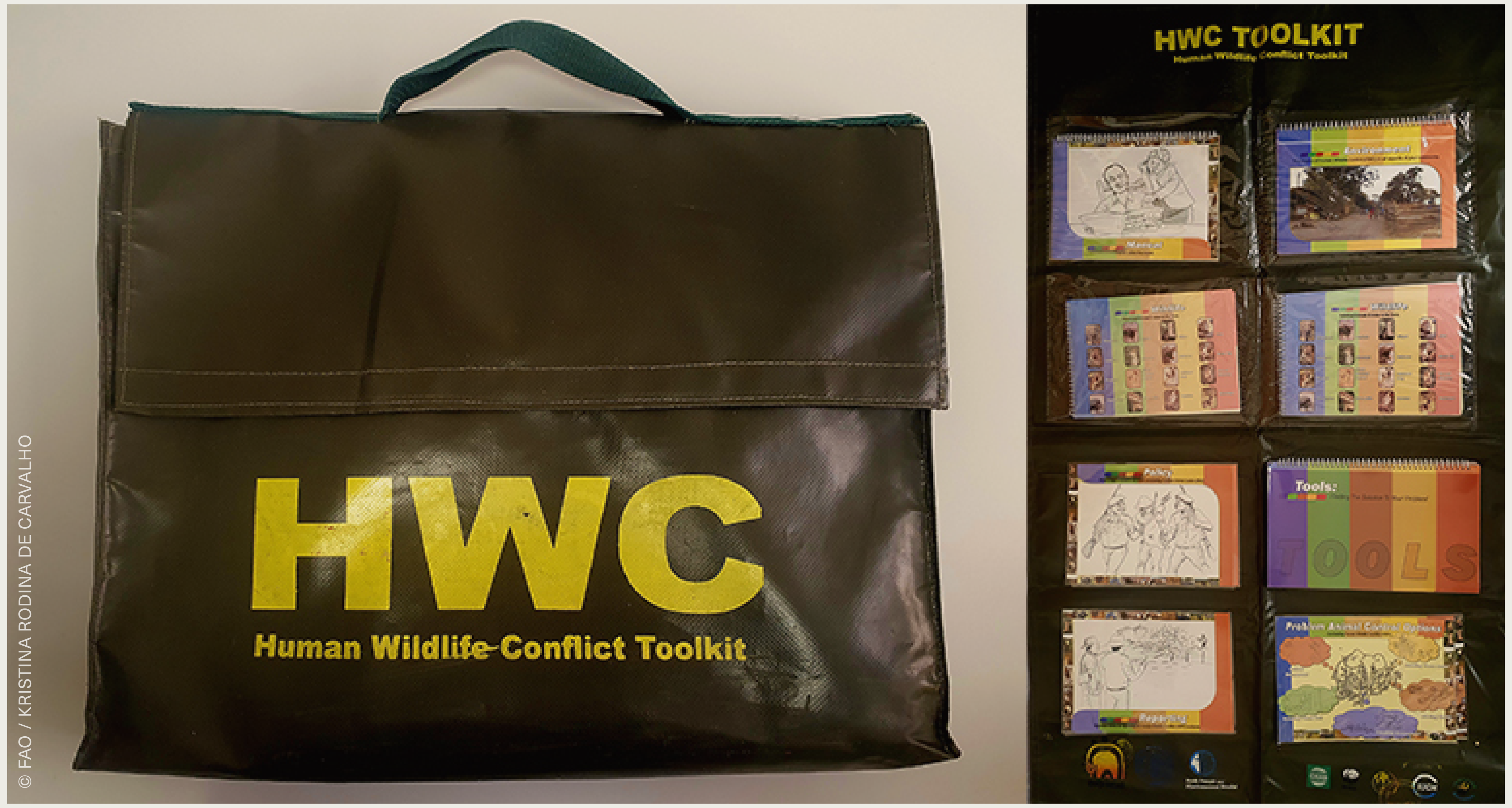
ACTIVITIES

In July 2011, in order to improve the utility of the database, two training sessions were held, namely: (i) a session for local game rangers in Tete and Cabo Delgado and (ii) a session on data management for the human-wildlife conflict national focal point, in Maputo, to determine what information needed to be collected and by whom, and to ensure human-wildlife conflict would be understood at a national level. Certain functionalities, such as the ability to record information on the location of the incident were added to the existing database.

> THE INFORMATION TO BE COLLECTED WAS STANDARDISED IN SUCH A MANNER THAT IT WOULD FACILITATE REPORTING, AND TO ENSURE THAT THE DATA COULD BE CROSS-COMPARED ACROSS REGIONS AND INTERNATIONAL BORDERS.

A system of transmission of data by SMS was developed and tested in the three pilot provinces throughout the implementation stage, resulting in a more rapid data transmission response time. In 2012, a training course was given to wildlife rangers, whose role was to collect the incident data, in Cabo Delgado, Tete and Gaza, with 30 participants at each location.

© UNSPLASH / CHRIS J. WALKER


HWC
Human Wildlife-Conflict Toolkit
HWC TOOLKIT
Human Wildlife Conflict Toolkit
Tools:

© FAO / KRISTINA RODINA DE CARVALHO

In the Zambezi region of the Tete province, in order to address the impacts caused to people by crocodiles, a consultant designed, constructed and installed a prototype cage that could be used by community members that needed to access the river.

> THE ENCLOSURE WAS BUILT AT THE RIVER'S EDGE WITH AN IRON BARRIER, CIRCUMSCRIBING A SECTION OF THE RIVER AND PROVIDING A SAFE AREA FOR PEOPLE TO ACCESS THE RIVER, WHILE KEEPING OUT CROCODILES.

This working solution was used to initiate discussions with the Tete community in order to improve the cage in the future.

In 2010, FAO had designed a human-wildlife conflict Toolkit for a project in Zimbabwe. The Toolkit was intended to be used by extension officers when attending human-wildlife conflict incidents, to support them in informing community members regarding what they should do under different circumstances.

> THE TOOLKIT WAS DEVELOPED AS A SUITCASE WITH SEPARATE COMPARTMENTS FOR INFORMATION ON POLICY, REPORTING TOOLS AND APPROACHES, COMMON PROBLEMATIC ANIMALS, AND PROVIDED POTENTIAL SOLUTIONS TO MITIGATE NEGATIVE IMPACTS.

The Toolkit was translated from English to Portuguese, as part of the project. It was then adapted to the specific situation in Mozambique, accounting for differences in culture, animals involved in human-wildlife conflict, incident levels and the type of incidents that typically occurred in this country. In three training sessions held in Maputo, Tete and Cabo Delgado, 60 field staff from the Ministries of Agriculture and Tourism received training on how to use this Toolkit with the affected stakeholders.

Awareness-raising at the national, provincial, and at the level of the local decision-makers was conducted to make people aware of the National Strategy for Human-Wildlife Conflict Management and that mitigation methods were available to them, as an alternative to lethal control. Mitigation methods being implemented in Mozambique were recorded and appraised, and the most successful methods were then added to the awareness-raising campaign and the Toolkit. The campaign was carried out in 2013 by MINAG and MITUR, administrative representatives, traditional leaders, and local theatre groups that were specifically trained for the purpose.

Posters and pamphlets were produced in Portuguese to highlight the main animals involved in human-wildlife conflict, including elephant, crocodile, hippopotamus *Hippopotamus amphibius*, lion, leopard *Panthera pardus*, hyaena *Hyaena crocuta*, warthog *Phacochoerus africanus* and several snake species, and the available mitigation strategies, and proper behavioural practices when meeting dangerous wildlife species. These materials were used for awareness campaigns on human-wildlife conflict mitigation methods at the community level, targeting 45 districts identified as problematic.

© ANAC

A portfolio of six pilot proposals on human-wildlife conflict mitigation were prepared by the project in collaboration with national government bodies, namely on; 1) creating a community crocodile farm to improve livelihoods; 2) advancing the crocodile-cage design, to adapt it to the technical and financial specificities of the communities using it; 3) designing field-blocks, so households can work together to farm; 4) providing secure access to water; 5) designing land use planning activities; and 6) developing capacity building efforts for human-wildlife conflict management, in general. These pilot proposals were budgeted and potential stakeholders were identified to lead each pilot initiative.

> **DONOR MEETINGS WERE HELD, AND THE PILOT PROPOSALS WERE PRESENTED TO IDENTIFY POTENTIAL FUNDERS. THE PROPOSALS BECAME A RESOURCE FOR THE GOVERNMENT TO SOURCE FUNDING FOR THEIR IMPLEMENTATION.**

OUTCOMES

By building capacity in the national government agencies, as outlined in the abovementioned activities, the FAO project empowered the government agencies to guide and implement the country's national strategy on human-wildlife conflict. The overhauled database, covering five years (2006-2010), was presented at the Council of Ministers, in order to underscore the importance of the situation in Mozambique, inform the Ministers of the problem, and highlight some of the tools available to reduce the impacts of human-wildlife conflict, particularly the crocodile cages that had been used and improved.

© ANAC

KEY INSIGHTS & LESSONS LEARNT

01 IDENTIFYING DONORS

During the final stages of the project, successful mitigation tools were packaged into a portfolio of funding proposals. These proposals were produced so they could be submitted to donors, ensuring the project's long-term continuity. Identifying funding sources and developing proposals was included in the project's stated activities.

02 MOVEMENT OF OFFICERS

Location-specific technical training was provided during the project to officers collaborating with the project in all regions. The officers were rotating to different regions, and thus the training they had undergone, would not always be useful for them to use after changing into a new region, where the human-wildlife conflict situations to tackle might be different.

03 CONTINUOUS UPDATES

Although the database was improved, continual improvements are often needed to adjust to novel situations that might arise, meaning that the project runs as a work-in-progress initiative.

04 CLEAR LEADERSHIP

Despite several different institutions being involved in the implementation of the project, the leadership structure was abundantly clear, roles were clearly described, ensuring the project was implemented smoothly.

05 BUILDING INSTITUTIONAL CAPACITY

Although the project provided training to rangers of the different departments in managing human-wildlife conflict situations, capacity building activities at the institutional level was essential to ensure the training could be continuously offered.

06 POLITICAL SUPPORT

Despite the explicit effort made to bring awareness on this important topic, the HWC strategy is still not a top priority in the government agenda. It is important to create the necessary mechanisms to guarantee continuity of political support over time.

FURTHER INFORMATION

DISCLAIMERS

The views expressed in this information product are those of the author(s) and do not necessarily reflect the views or policies of FAO. The boundaries and names shown and the designations used on this/these map(s) do not imply the expression of any opinion whatsoever on the part of the FAO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers and boundaries. Dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

ACKNOWLEDGEMENTS

With thanks to Carla Cuambe (FAO), Marcelino Foloma (WWF), and Armindo Araman (National Administration of Conservation Areas) for their vital contribution to this case study, and to James Stevens (Programme Officer, IUCN SSC Human-Wildlife Conflict & Coexistence Specialist Group) for writing the case study, with support provided by Paromita Basak (Wildlife Intern, FAO). The author would also like to acknowledge the valuable and constructive feedback provided by Alexandra Zimmermann (Chair, IUCN SSC Human-Wildlife Conflict & Coexistence Specialist Group) and Kristina Rodina de Carvalho (Forestry Officer, FAO). PRVRT Creative Studio took care of the graphic design and layout.

ABOUT THE CASE STUDIES

The **Food and Agriculture Organisation of the United Nations** (FAO) and the **IUCN SSC Human-Wildlife Conflict and Coexistence Specialist Group** (HWCCSG) have jointly developed a set of case studies with the aim of covering the process projects have taken to manage various aspects of a human-wildlife conflict & coexistence situation. This case study is one of many that will be used to illustrate key components of the **IUCN SSC Guidelines on Human-Wildlife Conflict & Coexistence**. The published case studies can be found in the **Human-Wildlife Conflict & Coexistence Library**.

Required citation: FAO and IUCN SSC HWCCSG. 2023. *Building institutional and local community capacity to manage human-wildlife conflict.* Rome, FAO
https://doi.org/10.4060/cc6101en

© PIXABAY / LIMBOKO

Contact:
Forestry Division – Willdife and Protected Areas Management
http://www.fao.org/forestry/wildlife
Food and Agriculture Organization of the United Nations
Rome, Italy

Some rights reserved. This work is available
under a CC BY-NC-SA 3.0 IGO licence

© FAO, 2023
CC6101EN/1/05.23